

REMARKS

Reconsideration of the above-identified patent application in view of the amendments above and the remarks following is respectfully requested.

Claims 1-16 are in this case. Claims 1-16 have been rejected under § 102(b). Independent claims 1 and 11 have been amended.

The claims before the Examiner are directed toward a system and method to provide feedback to an operator of a device having a delay in the feedback path. The operator is provided with a display device operative to display an image from a camera located on the device and, via a control device such as a joystick, the operator issues commands to the device that can include commands to move the device or to move the camera relative to the device or to zoom the lens of the camera. To prevent problems associated with feedback delay, such as a tendency to oversteer, on the one hand, or to be overly cautious and slow, on the other hand, the present invention displays a predicted image on the operator's display that closely approximates the view that would be expected from the camera if there were no feedback delay.

§ 102(b) Rejections

The Examiner has rejected claims 1-16 under § 102(b) as being anticipated by Rahim, US Patent No. 5,155,683 (henceforth, "Rahim '683"). The Examiner's rejection is respectfully traversed.

On page 2 of the present Office Action, the Examiner has presented Rahim '683 as disclosing, inter alia (page 3 of the present Office Action):

d) displaying a second image of a predicted view from said device at said second position prior to the operator receiving real feedback of said

movement command (e.g., vehicle's intended path is displayed) (see Col. 4, Lines 62-63), said second image occupying a portion of said display that is substantially identical to said portion of said display upon which said first image was displayed (e.g., superimposed on the image) (see Col. 4, Line 64), said second image replacing said first image (e.g., replace the old) (see Col. 5, Lines 19-22), said second image including at least a portion of said first image modified according to an operation selected from the group consisting of translation, rotation, magnification and reduction (e.g., zooms, pans or tilts) (see Col. 5, Lines 13-18). (emphasis added)

While continuing to traverse the Examiner's rejection, Applicant has, in order to expedite prosecution of the application, further amended independent claims 1 and 11 so as to include language making it absolutely clear that according to the method and system of the present invention the modification of the first image so as to produce the second image is performed by a processor, as opposed to actually zooming, panning or tilting the camera.

Support for these amendments can be found in the following quotation from a portion of paragraph [0030] of the present application, as displayed on the USPTO website (Publication Number 2006/0187224):

It will be appreciated by those skilled in the art that other operations including lateral, rotational, scaling and other image manipulations may be performed by processor 24 on image 28 to create image 30 depending on the desired movement command. Additionally, image 30 may be created by processor 24 using advanced image processing techniques to produce an image which is based upon image 28 as well as other images of prior views stored by remotely operated system 10. It should be noted that image 30 is created by altering image 28 to reflect the predicted view from camera 18 when device 14 is at the second position and not by superimposing an arrow or vector on image 28 to show where the second position is. (emphasis added)

The above citation from the specification of the present application clearly teaches the use of a processor to perform the modifications mentioned in claims 1 and 11.

Furthermore with regard to the objections to claim 1 raised by the Examiner, following is a quotation from Rahim '683, Col. 4, Lines 62-66:

The vehicle's intended path is displayed on the operator's viewing screen. The path appears as a computer-generated line superimposed on the image of the vehicle's environment, appearing like a stripe painted on the ground. (emphasis added)

Following is a quotation from Rahim '683, Col 5, Lines 13-18:

The transform which maps the screen path onto the ground path uses simple trigonometric formulas and perhaps coordinate transformations. The transform and parameters depend on the camera orientation and lens. The transform parameters can be continuously adjusted if the camera zooms, pans or tilts. (emphasis added)

Applicant respectfully notes that claim 1 of the present application, as noted by the Examiner in the above quotation from page 3 of the present Office Action, claims "displaying a second image of a predicted view from said device". This predicted view shows the operator a prediction of the view from the device at the present time, despite the fact that actual photographic data of the view from the device are not yet available. This is to be distinguished from the image provided according to Rahim '683, wherein "The path appears as a computer-generated line superimposed on the image of the vehicle's environment, appearing like a stripe painted on the ground." This predicted path is superimposed upon the delayed image. Rahim '683 provides neither a hint nor a suggestion of the modification of the image presented to the user other than the superimposition of the path. A predicted path shown as a line on a delayed image, while useful, does not provide the user with the same level of feedback as the view, predictively modified to compensate for the delay, presented by the method of the present invention.

In the present invention the second, predicted, image occupies a portion of the display substantially identical to the portion of the display upon which the first image was displayed. Thus, the second image substantially replaces the first image, rather than being superimposed upon the first image. This is in contradistinction to Rahim '683, wherein a line representing the predicted path is superimposed upon an otherwise unmodified delayed image.

The predicted view provided according to the present invention is not based upon new photographic data from the device, because such photographic data are not yet available. Instead, the predicted view is created by the processor (24) using image processing techniques, some or all of which are equivalent to zooming, panning and/or tilting. However, these processing techniques are applied to the image data, and do not necessarily involve actually zooming, panning or tilting the camera. This is in contradistinction to Rahim '683, wherein compensation is made in the line depicting the predicted path for zooming, panning or tilting of the camera, as seen in the above quotation from Rahim '683, Col 5, Lines 13-18, but with no hint or suggestion of using a processor to perform equivalent operations on photographic data to alter the image presented to the user, other than superimposing the expected path.

Furthermore, per the above quotation of paragraph [0030] from the specification of the present application, "It should be noted that image **30** is created by altering image **28** to reflect the predicted view from camera **18** when device **14** is at the second position and not by superimposing an arrow or vector on image **28** to show where the second position is." This clearly distinguishes the present invention from prior art such as Rahim '683.

The above arguments regarding claim 1 apply, mutatis mutandis, to claim 11.

Amended independent claims 1 and 11 now feature language which makes it absolutely clear that the present invention provides for a predictive display having features not hinted at or suggested in Rahim '683. Applicant believes that the amendment of the claims completely overcomes the Examiner's rejections on § 102(b) grounds.

Amendments to the Specification

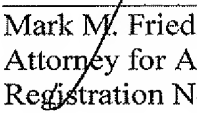
No new matter has been added.

Typographical Correction

In Applicant's response to the Office Action mailed October 9, 2007 a change was made to claim 12, which should therefore have been given the designation "Currently Amended" but was inadvertently given the designation "Original". Claim 12 in the present response has been given the designation "Previously Presented", which is the designation claim 12 would receive had the designation been correct in the response to the October 9, 2007 Office Action. Applicant apologizes for the error.

In view of the above amendments and remarks it is respectfully submitted that independent claims 1 and 11, and hence dependent claims 2-10 and 12-16 are in condition for allowance. Prompt notice of allowance is respectfully and earnestly solicited.

Respectfully submitted,



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